C. Disston,

Saw Teeth,

No. 80,929, Patented Aug. 11, 1868.

Fig: 1.

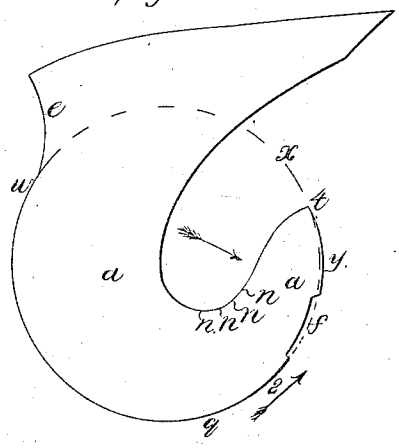


Fig: 2

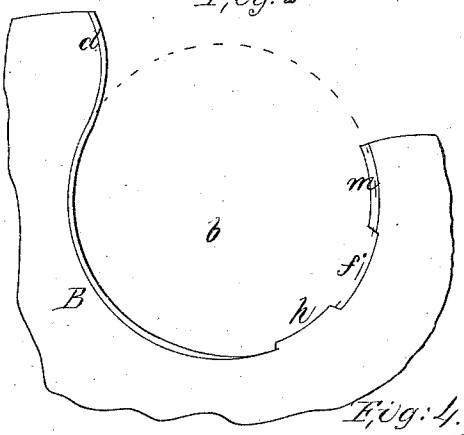


Fig: 3.

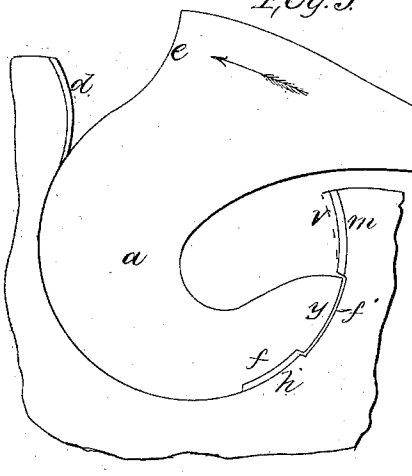
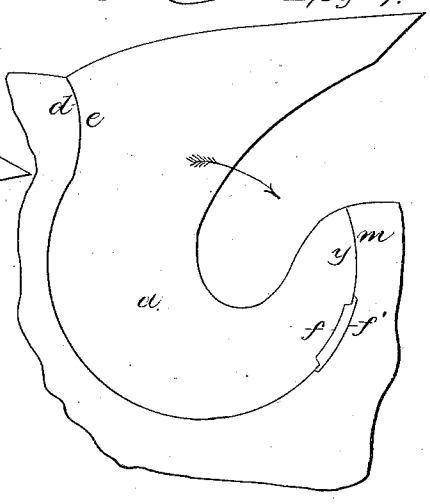


Fig: 4.



Witnesses;
Charles Howson
John Parker

Inventor;
Chas. Disston
By his Atty
H. Howson

United States Patent Office.

CHARLES DISSTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HENRY DISSTON, OF SAME PLACE.

Letters Patent No. 80,929, *dated August* 11, 1868.

IMPROVEMENT IN SAWS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES DISSTON, of Philadelphia, Pennsylvania, have invented an Improvement in Securing Detachable Teeth to Saw-Blades; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of detachable saw-teeth which have circular bases adapted to circular recesses in the blade; and my invention consists in making the base of the tooth and the recess therefor of the same diameter, in the first instance, and in forming on the edge of the base, or on the edge of the recess, a protuberance, as described hereafter, so that the tooth cannot be moved back to its place without being forcibly driven, and so that it may be held so tightly in its place that its dislodgment is prevented, without the aid of fastening-appliances.

In order to enable others skilled in the art to make and apply my invention, I will now proceed to describe the mode of carrying the same into effect, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 represents the tooth detached from the blade.

Figure 2, the recess in the blade for the reception of the tooth.

Figure 3 illustrates the mode of introducing the tooth to its place; and

Figure 4 the tooth as it appears when fitted to its place.

Similar letters refer to similar parts throughout the several views.

Although the tooth may be classed with what are known as teeth with circular bases, the edge of the base, *a*, does not coincide throughout with a true circle, as will be seen on examining the red line *x*, fig. 1, beyond which line the base of the tooth has a protuberance near *y*.

The base may, in the first instance, be made to coincide with a true circle, and the desired protuberance *y* may be obtained by forcing the portion *a'* of the base away, in the direction of the arrow, fig. 1, from the body, *a*, of the base. This can be readily accomplished by striking the tooth, while it rests with one face on an anvil, several blows with a hammer at the points *n n n* on the opposite face.

The edge of the recess *b*, however, made in the blade for the reception of the tooth, coincides with a true circle of the same diameter as that which defines the greater portion of the edge of the base, and on the edge of this recess and on the shoulder *d*, fig. 2, is formed a V-shaped rib, adapted to a similarly-shaped groove in the edge of the base, *a*, and that of the shoulder *e* of the tooth.

A portion, *f'*, of the edge of the recess *b* is cut away for the reception of the protuberant portion *y* of the base of the tooth, the edge of which is also cut away at *f* to receive the projecting portion *h* of the edge of the recess *b* of the blade, when the tooth is adjusted to the position shown in fig. 3.

After the base of the tooth, while occupying this position, has been introduced into the recess, it is forced back in the direction of the arrow, fig. 3, when the protuberant portion *y* will move upwards in contact with the portion *m* of the edge of the recess. As the latter is circular, however, and the portion *y* of the tooth projects beyond the circumference of a circle of the same diameter as the recess, the tooth cannot be moved back without being forcibly driven, and without the yielding of the portion *a'* of the base.

When the tooth has been driven so far back that its shoulder *e* is in contact with the shoulder *d* of the blade, the base is so tight in its place that no fastening-appliances other than those described are necessary to prevent its dislodgment.

In fastening teeth with circular bases to recesses in the blade of a saw, it has been usual to make the base of each tooth larger in diameter than the recess, and to contract the tooth as it is being introduced into its place, but this plan is objectionable, as a base of larger diameter, when contracted for insertion into a recess of smaller diameter, cannot fit accurately to the latter.

In striking the tooth at the points *n n*, for the purpose of obtaining the protuberance *y*, the edge of the base, from about the point *q* to the point *t*, in the direction of the arrow 2, fig. 1, must of necessity depart from

a true circle, but from the point *q*, in a contrary direction to the point *w*, the edge of the base is in a true circle, of the same diameter as the recess, to which it must consequently fit accurately, and against which the base must be tightly forced during the act of driving back the tooth.

The base of the tooth may be made in a true circle, and the edge of the recess may be made to project at *v*, as shown by red lines, fig. 3, with a result the same as that described above, but I prefer to make the recess in a true circle throughout, and the tooth to project at *y*.

I wish it to be understood that I do not desire to claim broadly a detachable tooth with a circular base adapted to a circular recess in the blade; nor do I claim a rear projection on the tooth for bearing against a shoulder on the edge of the blade; but

I claim as my invention, and desire to secure by Letters Patent—

A detachable saw-tooth, having a circular elastic base, adapted to a circular recess in the blade, when there is on the edge of the said base or said recess, and from the circular line which defines the same, such a projection or protuberance that the elastic base will yield on fitting the tooth to its base, all as herein set forth for the purpose specified.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES DISSTON.

Witnesses:

ANDREW RIDDEL,

C. B. PRICE.